GTF2I MUTATIONS AS A GENETIC MARKER FOR PROGNOSIS OF THYMIC MALIGNANCIES

SUMMARY

Despite the growing number of biomarkers that are used for diagnosing and treating carcinomas in general, cancers of the thymus are still diagnosed, stratified and treated by a costly combination of histology, surgery and radiological procedures. The lack of qualified biomarkers associated with thymomas and thymic carcinomas has also hampered the development of targeted therapies. The National Cancer Institute seeks partners interested in licensing or collaborative research to co-develop a prognostic PCR based test for thymic malignancies.

REFERENCE NUMBER

E-109-2014

PRODUCT TYPE

- Diagnostics

KEYWORDS

- Thyroid
- thymoma
- thymic

COLLABORATION OPPORTUNITY

This invention is available for licensing.

CONTACT

John D. Hewes
NCI - National Cancer Institute
240-276-5515

John.Hewes@nih.gov

DESCRIPTION OF TECHNOLOGY

Thymoma and thymic carcinomas are a rare and poorly understood group of malignancies. Despite the growing number of biomarkers that are used for diagnosing and treating carcinomas in general, cancers of the thymus are still diagnosed, stratified and treated by a costly combination of histology, surgery and radiological procedures. The lack of qualified biomarkers associated with thymomas and thymic carcinomas has also hampered the development of targeted therapies.

Researchers at NCI discovered a missense mutation in the general transcription factor Iii (GTF2I) at high

frequency in non-aggressive forms of thymoma, as well as a series of common oncogene mutations in aggressive thymic carcinomas. The technology provides a method for determining the prognosis of thymic cancer and informing clinical decisions regarding treatment regiments by a simple PCR based test.

POTENTIAL COMMERCIAL APPLICATIONS

- A diagnostic test kit for the diagnosis and stratification of thymic cancers .
- A simple and inexpensive test that will inform clinical treatment decisions

COMPETITIVE ADVANTAGES

- The PCR based method is cheaper, more sensitive and more objective than currently available histological classification and stratification
- Prevents the need for extensive radiological tests in non-agressive thymomas
- Provides the basis for developing new targeted therapies, or to identify currently available therapies that can be used to treat thymic cancers.

INVENTOR(S)

Guiseppe Giaccone (currently Georgetown University)

DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PUBLICATIONS

Petrini I, et al. PMID 24974848

PATENT STATUS

- **U.S. Filed:** U.S. Patent Application No. 14/676,987 – filed April 2, 2015

THERAPEUTIC AREA

- Cancer/Neoplasm